UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,763	05/19/2005	Maurizio Spirito	59643.00603	4669

32294 7590 04/09/2007

SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER	
PATEL, NIMESH	
ART UNIT	**PAPER NUMBER**
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,763	SPIRITO, MAURIZIO	
	Examiner	Art Unit	
	Nimesh Patel	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 -30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *Mar. 22, 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detail Office Action

Claims Rejection – 35 U.S.C. 112 2nd paragraph

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The term "applying one of a plurality of available methods" in claim 1 is a relative term which renders the claim indefinite. The term "applying one of a plurality of available methods" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

3. The term "multiple sources of information" in claim 2 is a relative term which renders the claim indefinite. The term "multiple sources of information" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

4. The terms "simultaneously and respective" in claim 3 are a relative terms which renders the claim indefinite. The terms "simultaneously and respective" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

5. Also, in claim 3, the term "network" is used, is this same network or different one? As the claim 1 is the method for locating mobile terminal in a communication, the method comprising the steps of: ....., while, in claim 3 the network comprises.....

6. The terms "selecting and applying, and from number of available methods" in claim 5 is a relative term which renders the claim indefinite. The terms "selecting and applying, and from number of available methods" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

7. The term "selecting a variable" in claim 8 is a relative term which renders the claim indefinite. The term "selecting a variable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

8. The term "depending" in claim 13 is a relative term which renders the claim indefinite. The term "depending" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. The terms "possible methods, can be used together and available methods" in claim 14 are a relative terms which renders the claim indefinite. The terms "possible methods, can be used together and available methods" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one

of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

10. The term "around" in claim 16 is a relative term which renders the claim indefinite. The term "around" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

11. The term "assumed" in claims 21, 23 and 24 is used, one **cannot assume** anything in claims.

There may be quite a lot 112 corrections needed to be done.

The above are just an examples that the examiner had spotted, the applicant is hereby requested to go through all the claims, and fix 112 rejections.

12. The term "modeling [SIC] a cell of the network" is used in claims 15 and 16, is unclear to the examiner. The term "modelling [SIC] a cell of the network", fails to clearly define, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims Rejection – 35 U.S.C 102(b)

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1 – 5, 7 – 9, 11 – 31 are rejected under 35 U.S.C. 102(b) as anticipated by Fitch US Patent: US 6,321,092 B1 Nov. 20, 2001.

Regarding claim 1, which claims, "estimating a location of the mobile terminal", Fitch discloses, multiple LFE inputs, form one or more LFEs, to be used to allow for wireless station tracking and reduced location uncertainty. The stored location information preferably includes at least location information and corresponding time information for wireless stations, and may further include location uncertainty information, travel speed and direction information (ABSTRACT, Figs. 1, 2, column 2, lines 37 – 57). Here, the location uncertainty information, is the claimed "estimating a location of the mobile terminal".

Further claimed feature, "applying one of a plurality of available methods to calculate a region around the estimated location in which the terminal could be located", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30, column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8).

Regarding claim 2, which claims, "the step of estimating a location of the mobile terminal is performed using multiple sources of information", Fitch discloses, the first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies (Figs. 2, 3A – 3D, column 2, lines 52 – 54), as in claim 1 above. The LFE determines location information based on two or more cell sites, a reading from one of the cell sites may be used in conjunction with other location, e.g. cell sector information, to make a location determination (column 3, lines 42 – 47).

Regarding claim 3, which claims, "the networks comprises multiple cells and each source of information comes from a respective one of the multiple cells", Fitch discloses, in the case of LFEs that determine location based on readings obtained relative to two or more cell sites, a reading from one of the cell sites may be used in conjunction with other location, e.g. cell sector information, to make a location determination (column 3, lines 42 – 47), as in claim 2 above.

Regarding claim 4, which claims, "the mobile terminal is served by multiple cells of the network simultaneously and each source of information comes from a respective one of the multiple cells", Fitch discloses, in the case of LFEs that determine location based on readings obtained relative to two or more cell sites, a reading from one of the cell sites may be used in conjunction with other

location, e.g. cell sector information, to make a location determination (column 3, lines 42 – 47), as in claim 3 above. Here, as the mobile location information is obtained by two or more cell sites, and reading from one cell sites is used in conjunction with other sites, it indirectly shows that the mobile is being served by multiple cells at the same time.

Regarding claim 5, which claims, "the step of estimating a location of the mobile terminal comprises the steps of selecting and applying a preferred method for estimating the location from a number of available methods", Fitch discloses, the velocity facility 216, multiple-input facility 217 and tracking facility 218 may use the raw information from the LFEs 208. 204 and 206 to the LFCsof 208, 220 and 212 in place of, or in addition to the LFC outputs. The multi-input processing facility 217 may use a hyperbola definition from a TDOA system in combination with an angle from an AOA system (or other combination of partial LFE outputs) if such combination yields an improved location accuracy or otherwise provides a suitable location determination. Similarly, it may be preferred to use the raw data for velocity or tracking calculations as such data is mathematically closer to the moving wireless station and may more accurately reflect station movement (column 10, lines 44 –58).

A wireless location applications interface 224 allows wireless location applications 226, 228 and 230 to selectively access information stored in the LC

220 or prompt one or more of LFEs 202, 204 and/or 206 to initiate a location determination (Figs. 1 and 7).

Regarding claim 7, which claims, "an algorithm using information from one cell of the network, an algorithm using information from multiple cells of the network, and a numerical method using information from multiple cells of the network", Fitch discloses, the velocity facility 216, multiple-input facility 217 and tracking facility 218 may use the raw information from the LFEs 208. 204 and 206 to the LFCs of 208, 220 and 212 in place of, or in addition to the LFC outputs. The multi-input processing facility 217 may use a hyperbola definition from a TDOA system in combination with an angle from an AOA system (or other combination of partial LFE outputs) if such combination yields an improved location accuracy or otherwise provides a suitable location determination. Similarly, it may be preferred to use the raw data for velocity or tracking calculations as such data is mathematically closer to the moving wireless station and may more accurately reflect station movement (column 10, lines 44 –58), as in claim 5 above.
A wireless location applications interface 224 allows wireless location applications 226, 228 and 230 to selectively access information stored in the LC 220 or prompt one or more of LFEs 202, 204 and/or 206 to initiate a location determination (Figs. 1 and 7), as in claim 5 above.

Regarding claim 8, which claims, "the preferred method can be specified by setting a variable", Fitch discloses, the velocity facility 216, multiple-input facility 217 and tracking facility 218 may use the raw information from the LFEs 208. 204 and 206 to the LFCsof 208, 220 and 212 in place of, or in addition to the LFC outputs. The multi-input processing facility 217 may use a hyperbola definition from a TDOA system in combination with an angle from an AOA system (or other combination of partial LFE outputs) if such combination yields an improved location accuracy or otherwise provides a suitable location determination. Similarly, it may be preferred to use the raw data for velocity or tracking calculations as such data is mathematically closer to the moving wireless station and may more accurately reflect station movement (column 10, lines 44 –58), as in claim 5 above.

A wireless location applications interface 224 allows wireless location applications 226, 228 and 230 to **selectively** access information stored in the LC 220 or **prompt one or more of** LFEs 202, 204 and/or 206 to initiate a location determination (Figs. 1 and 7), as in claim 5 above.

The Wireless Location Interface – WLI 224 allows the applications to include specification with a location request one or more parameters: timeliness, accuracy, confidence level, most recent available, most accurate, one time or ongoing monitoring of a mobile station etc. (column 11, lines 9 – 31).

Regarding claim 9, which claims, "the step of calculating a region around the estimated location comprises the steps of selecting and applying a preferred method for calculating the region from the plurality of available methods", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30,
column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above.

Regarding claim 11, which claims, "the available methods for calculating the region include: an ellipse algorithm, a circle algorithm, an arc algorithm, and a polygon algorithm", Fitch discloses, determining location information into standardized location information, as geographical location coordinates and a region of uncertainty. The uncertainty region may be of any shape – e.g. polygonal, depending on the nature of the LFEs employed. For circular region an

uncertainty is radius, for two dimensional location coordinates – longitude and longitude with an uncertainty radius applied relative to the location coordinates. The standard format may allow for altitude coordinates, non-circular regions and other parameters (Figs. 3A – 3E, and column 7, line 63 through column 8, line 8).

Regarding claim 12, which claims, "the methods include use of a parameter to calculate the region such that the probability of the mobile's exact location being in that region equals the parameter", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30, column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above.

Regarding claim 13, which claims, "the steps of selecting and applying a preferred method for estimating the location from a number of available methods,

and the selected method for calculating the region together result in a number of shapes of region in which the mobile terminal could be located, the shape depending on the selected method for calculating the region", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30,
column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above.

Fitch also discloses, determining location information into standardized location information, as geographical location coordinates and a region of uncertainty. The uncertainty region may be of any shape – e.g. polygonal, depending on the nature of the LFEs employed. For circular region an uncertainty is radius, for two dimensional location coordinates – longitude and longitude with an uncertainty radius applied relative to the location coordinates. The standard format may allow

for altitude coordinates, non-circular regions and other parameters (Figs. 3A – 3E, and column 7, line 63 through column 8, line 8), as in claim 11 above.

Regarding claim 14, which claims, "the step of selecting and applying a preferred method for estimating the location from a number of available methods, and applying a rule that specifies which of the possible methods for estimating the location can be used together with what available methods for calculating the region", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30, column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above.

Fitch also discloses, determining location information into standardized location information, as geographical location coordinates and a region of uncertainty. The uncertainty region may be of any shape – e.g. polygonal, depending on the

nature of the LFEs employed. For circular region an uncertainty is radius, for two dimensional location coordinates – longitude and longitude with an uncertainty radius applied relative to the location coordinates. The standard format may allow for altitude coordinates, non-circular regions and other parameters (Figs. 3A – 3E, and column 7, line 63 through column 8, line 8), as in claim 11 above.

Regarding claim 15, which claims, "the step of estimating a location comprises the step of modeling a cell of the network", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47,
column 5, line 18 - column 7, line 30, column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above.
The examiner interprets that the system is finding the location of the wireless device, which teaches, the wireless device is within the wireless network, which

has cells, base stations, MSCs etc., which reads on the claimed feature "modellling[SIC] a cell of the network".

Regarding claim 16, which claims, "the step of calculating a region around the estimated location in which the mobile terminal could be located comprises the step of modeling a cell of network", Fitch discloses, Multiple Location Finding - LFE equipment inputs are used to enhance the location information. The LFS 116 can receive input information at varying time intervals of varying accuracies and in various formats, and can provide standardized outputs to the application 118. The first and second LFEs preferably may employ different location findings, e.g. GPS, AOA, TDOA and cell/sector technologies Multiple inputs may also be co-processed for enhanced accuracy. A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30, column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above, along with the rejections for claim 11 above.
The examiner interprets that the system is finding the location of the wireless device, which teaches, the wireless device is within the wireless network, which has cells, base stations, MSCs etc., which reads on the claimed feature "modellling[SIC] a cell of the network", as in claim 15 above.

Regarding claim 17, which is essentially similar to claim 1 above.

The examiner interprets, finding the location of the mobile terminal in communications network, as in claim 1 above. The network having MSC, base stations, and the cells, teaches the claimed feature, "the service area containing a number of cells including a cell in which the mobile terminal is located".

Regarding claim 18, which is essentially similar to claim 1 above.

The examiner interprets, finding the location of the mobile terminal in communications network, as in claim 1 above. The network having MSC, base stations, and the cells, teaches the claimed feature, "the service area is represented by the geographical region served by the cells in the service area".

Regarding claim 19, which is essentially similar to claim 11 above.

Regarding claim 20, which is essentially similar to claim 1 above.

Regarding claim 21, which is essentially similar to claim 1 above.

Regarding claim 22, which is essentially similar to claim 11 above.

Regarding claim 23, which is essentially similar to claim 1 above.

Regarding claim 24, which is essentially similar to claim 11 above.

Regarding claim 25, which is essentially similar to claim 1 above.

Regarding claim 26, which is essentially similar to claim 1 above.

A number of different location finding technologies are depicted in Figs. 3A – 3E (ABSTRACT, Figs. 1, 2, 3A – 3E, column 2, line 42 – column 3, line 47, column 5, line 18 - column 7, line 30, column 7, line 42 – column 8, line 22, column 8, line 56 – column 9, line 16, column 9, line 56 – column 10, line 18, column 10, line 58 – column 11, line 8), as in claim 1 above.

Regarding claim 27, which is essentially similar to claim 1 above.

Regarding claim 28, which is essentially similar to claim 1 above.

Regarding claim 29, which is essentially similar to claim 1 above.

Regarding claim 30, which is essentially similar to claim 1 above.

2. Claims 1, 6 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by Fitch US Patent: US 6,212,392 B1 Apr. 3, 2001.

Regarding claim 1, which claims, "estimating a location of the mobile terminal", Fitch (US 6,212,392) discloses, the method for determining if the location of a wireless communication device is within a specified area (ABSTRACT).

Further claimed feature, "applying one of a plurality of available methods to calculate a region around the estimated location in which the terminal could be located", Fitch(US 6,212,392) discloses, the area of interest is defined using quadtree that represent the area of interest. By iterative comparison of the location of the location associated with the wireless station to the locations associated with a node at each level of the quadtree, a determination can be made as to whether or not the location associated with the wireless station is within the area of interest (ABSTRACT, all the Figs. and
column 1, line 65 – column 2, line 24,
column 7, line 36 – column 8, line 17, column 8, lines 42 – 64).

Regarding claim 6, which claims, "if the selected method for estimating the location is unsuccessful, the method sequentially selecting and applying one or more others of the available methods until a selected method is successfully applied", Fitch(US 6,212,392) discloses, using quadtree representation of the

area of interest and determining the location of wireless station by iterative comparison of the location of the location associated with the wireless station (ABSTRACT, all the Figs. and column 1, line 65 – column 2, line 24, column 7, line 36 – column 8, line 17, column 8, lines 42 – 64), as in claim 1 above.

Regarding claim 10, which claims, "if the selected method foe calculating a region is unsuccessful when applied, the further step of sequentially selecting and applying other of the available methods until a selected method is successfully applied", Fitch(US 6,212,392) discloses, using quadtree representation of the area of interest and determining the location of wireless station by iterative comparison of the location of the location associated with the wireless station (ABSTRACT, all the Figs. and column 1, line 65 – column 2, line 24,column 7, line 36 – column 8, line 17, column 8, lines 42 – 64), as in claim 1 above.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by Larsson, US Patent: US 6,282,427 B1 Aug. 28, 2001.

Regarding claim 1, which claims, "estimating a location of the mobile terminal", Larsson discloses, selecting location measurement units for determining the position of a mobile communication station (ABSTRACT, Figs. 1 - 15).

Further claimed feature, "applying one of a plurality of available methods to calculate a region around the estimated location in which the terminal could be located", Larson discloses, various techniques to determine the location of wireless mobile device (column 1, line 53 – column 2, line 23), calculating a modeled geographical representation of the current cell (column 9, lines 45 – 46), calculating a mass center (Fig. 6, block 61, column 4, lines 34 – 37), the center, whose location is defined by the coordinate system, represents the entire communication cell which includes the mobile unit located inside the coverage area (Fig. 3, column 4, lines 2 – 6).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Kennedy teaches, method for supporting multiple wireless carrier mole station location requirements with a common network overlay location system.
US PGPub: US 2004/0132466 A1 Jul. 8, 2004.

2. Amirijioo teaches, architecture for Time If Arrival – TOA positioning with a Location Measuring Unit – LMU control functionality in BSC, to compute positioning coordinates for the mobile set.
US Patent: US 6,603,976 B1 Aug. 5, 2003.

3. Remy teaches, process for calculating the position of a mobile station, starting from an identifier of a current geographical cell in which the said mobile station is located.
US PGPub: US 2002/0039905 A1 Apr. 4, 2002.

4. Reed teaches, method and system for estimating a subscriber's location in a wireless communication system service area.
US Patent: 6,161,018 Dec. 12, 2000.

5. Kingdon teaches, system and method for implementing positioning quality of service.
US Patent: 6,078,818 Jun. 20, 2000.

Contact Information

Any inquiry concerning this communication from the examiner should be directed to Nimesh Patel at (571) 270-1228, normally reached on Mon-Thur. 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Feild, Joseph can be reached at (571) 272-4090.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR of Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nimesh Patel
03-31-07

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER